/84 cont./

396 The construction of these rafts is rather simple, although
[147] it demands great manual skill and considerable expenditure of strength. The keel is composed of two enormous spindle-shaped sheafs of totora tied together. The natives obtain them by heaping up and intertwining stalks of totora of unequal length (Pl. IV, B /see p. 24/); they take care that the shortest remain inside and they cover these with progressively longer stalks until the total forms a compact mass. The rope which maintains each of these rolls /85/ /Fig. 25 appears here/ /86/ is crossed at each turn with that of the other sheaf. Two padded rims are then fastened to the edge, where they serve as a railing and add to the stability of the craft. The only instrument to which the Indians have recourse in making these rafts is a wooden hook (Fig. 24, 5 /see p. 10/), which they use to lift the straw rope, either to tighten it or to pass the rope which joins one sheaf to the other under it. This alternating play of the ropes obliges the balsa constructors to work always two by
501 two (Pl. IV, C /see p. 24/). For navigating, the Uro have long boathooks, l'okena, the wood for which comes from the eastern slopes of the Andes. The extremity of these poles ends in a sort of trident which prevents them from sinking too deeply in the mud of the lake (Fig. 25, 2 /see p. 15/).

285 Mats. The Uro Indians have several uses for the rush (totora) mats. They make the framework and roofs of their huts from it, their beds, the door of their house, and the sails of their balsas. Making them is not complicated. The totora stalks are spread out on five or six parallel ropes, stretched between stakes, and attached to them in little piles.

283 Rope-making. The Uro are obliged to constantly make rope, the indispensable accessory for the two industries which have just been mentioned. Different types of gramineous plants,
[284] among them the Stipa ichu Kunth, Festucha orthophylla Pilger, and F. dissiflora Griseb (1), furnish them with raw material of

1. Parodi, p. 4.

[text continues on p. 16]

/86 cont./

000 1. Parodi, p. 4.

283 excellent quality. They pull them up with their roots, then put them in a pile, cutting off the two ends, and let them soak in
283 water. Then they crush them on a slab with hammer blows.
412 The latter is made of a stone put in a leather sheath to which a wooden handle is attached (Fig. 25, 1 /see p. 15/). There is no doubt that this handle is a recent innovation, and that the primitive hammers of the Uro, like all those of the Aymara of the conquest and of the modern Cipaya, were nothing more than a simple pebble with, at the most, somewhat of a depression to facilitate grasping it. Once the straw is flexible through the washing and hammering, it is rolled on the leg with the flat of the hand, following a process common to America as a whole.

291 Dress. The dress of the Uro is identical with that of the
171 Aymara, i.e., with very few exceptions, to that of the poor classes in practically all of Latin America: trousers, a shirt,
292 a felt hat, and a poncho. Almost all the Uro, however, still
[174] keep the "camiseta," the long woolen shirt which was once the /87/ national costume of the Indians who belonged to the Andean civilizations or who were subject to their influence (Fig. 25, 4 /see p. 15/). They rarely put it on nowadays, and only on my express request did those whom I photographed consent to slip this tunic over their ordinary clothes (Pl. V, A /see p. 25/).
291 They cover their heads with a wool helmet, whose pre-Colombian
294 origin is doubtful. The Uro formerly knitted them with thread made from the down of water birds. The Berlin Museum has a sample of these caps, the technique of which Dr. Th. Krickeberg was kind enough to study on my behalf. This examination led
[Pf 3] him to the conclusion that although the idea of spinning bird
[172] down is ancient, the knitting stitches are clearly European in origin.

291 The women are dressed like the Indian women of La Paz: several colored skirts put on one over the other, a dirty blouse barely hidden by a mantle closed over the chest, a felt hat, and

2:Méraux--136 E-8 (1930-1931) 1935, 1936 SF24 Uru SF24

Plate XV

A. —Old Čipaya woman and her daughter.

B. —Čipaya woman spinning.

C. —Čipaya woman.

D. —Čipaya Indian dressed in a camiseta.

Plate XVI

Caranga-Chipaya

A

B

C

D

E

F

A. – Coca bag covered with a sort of "velvet" and used only during festivals.

B. – Festive sling.

C. – Wig worn by the men during festivals.

D. – Sacred stick (hamana-pare).

E. – Rope cross hung on the roof of the huts.

F. – Perforated pembrels used as money during the festival of the alasita.

Caranga: -
Cayaya

/156 cont./ The framework of the latter is actually formed by [illegible]
of tola (Tola, Tosa) solidly bound into cylinders with straw ropes (waru-waru) (Pl. VI, 8 /see p. 215/). They are thrust in the holes of which we have just spoken and then tied together (Fig. 1, H /see p. 142/). The number of arches which make up the skeleton of the roof is eight and they are arranged in two groups of four which are superimposed and are fastened at the intersections by solid ligatures. Up to the last moment the framework is held up by props of Cereus wood /157/. /Figure 1 appears here/ /158/ in order to allow the roofers to walk on the arches without making them fall in.

On this frame is spread a sort of linoleum (pirina) made of straw (ichu) stuck together with mud, the whole forming flexible plates which take the form of the frame. On top of this thin covering, the function of which is to make the roof impermeable, the straw is laid. The roofers receive large bunches of it which are hoisted up with rope. They spread it on the edge of the roof, where they trample it down by foot. These sheaves are then sewn on the faggots by means of a long wooden needle (kapa) threaded with straw cord (Fig. 1, A) and wielded by two workers, one inside the hut and the other outside. The needle, after having passed through the linoleum, goes around each of the faggots in turn and returns to encompass a new sheaf of straw. The remaining straw is arranged in successive layers, imbricated up to the summit. The adherence of this thatch to the roof and its resistance to the terrific gusts of wind on the altiplano is assured by means of a straw net which is made on the roof itself. The quadrangular or triangular mesh of this net are not exactly knotted but simply made by the intercrossing of a long straw cord which is tightened by traction carried out from below to above in pace with the formation of the net.

The roof is not considered finished until a straw cross surmounts it, which, according to native belief, protects the house from the effects of lightening.

Furnishings. The interior disposition of Cipaya huts is most summary. The only furniture of any importance is the earthen stove

[Text Continues on p. 143]

/166 cont./ when the pile of cheeses is high enough it is firmly bound with a wool rope and left to drip for a certain number of days. These cheeses, white and tasteless, are seasoned with salt which the Čipaya get from the great salt deposits which spread out about 30 kilometers from their village. /167/ /Figure 3 appears here./

/168/ Weapons

The small number of weapons that the Čipaya have is a direct consequence of the insignificance of hunting in their economy. As for war, it is an unknown phenomenon for them. Who would dream of coming to pick a fight with them for possession of the sand dunes or stunted pastures? The only occasions for giving free rein to their bellicose instincts are the festivals. The alcohol they absorb then accentuates the underhand rivalry of the sayas among themselves, and, awakening passions, leads them to often bloody fights. I do not know if any weapons other than sticks and fists enter into play in this case.

The sling (kuxawa) (Fig. 4, A /see p. 157/), which is the weapon par excellence of the Indians of the altiplano, has only a peacable use in Chipaya: it is used to hurl lumps of earth at llamas or sheep to prevent them from straying from the flock or from the route being followed. It is possible that the Čipaya might have recourse to the sling when they have some quarrels with the people of the other saya, but I was never able to get particulars on this subject. Another circumstance contributes to making the sling of the Čipaya a harmless instrument: the lack of stones able to serve as projectiles.

The bolas of the Čipaya play a role close to that of the sling: they permit them to catch the sheep. The most common type is the ordinary bola. The stones instead of being caught in a leather sheath, as is the case with the archaeological specimens (Fig. 4, D-E), are furnished with a groove which prevents the rope from slipping (Fig. 4, J).

[TEXT CONTINUES ON P. 156]

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/See captions on next page./

/169 cont./

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Fig. 4. —Čipaya material culture. Weapons and technology.

A: Čipaya sling.

B: Bag (käls) covered with white, black, and red tufts forming a sort of velvet.

C: Čipaya bola perdida.

D-E: Pre-Columbian bolas.

F: Weaver's dagger (wiña), of bone.

G: Čipaya loom for weaving women's belts (tsai).

H: Spindle with wooden weight /whorl/ (t^{h}eri).

I: Bag (käls) made from the skin of a llama's neck.

J: Weights of a modern Čipaya bola.

/176 cont./

415 Besides these vessels of archaic form which have not been
[193] shaped with the help of a potter's wheel, the Čipaya use locally
439 produced receptacles, the technique of which is more advanced and influenced by European civilization. These vessels are produced in quantity in various regions of the altiplano and bear trademarks.

The Čipaya take good care of their ceramics, each piece of which represents a pecuniary sacrifice for them; hence many pots for daily use are wrapped in a protective sheath of undressed leather (Fig. 6, C /see p. 165/).

[192] The names (maska, lūš, čua yuru, oč, yakina) that the Čipaya give the different pieces of pottery they use are always
[194] Aymara. One can deduce from this that the Uro did not know this industry or that they have been dependent on the Aymara for a long time in this respect.

● 283 Spinning. The raw sheep's wool (uš-čuma) or llama wool (xwal-čuma) is rolled around the left arm and spun by means of a spindle (t^{h}eri) (Fig. 4, H /see p. 157/). The spindle stick is not surmounted by any enlargement. The weight /whorl/ (waiñu) is now of turned wood, but I was still able to obtain two specimen crudely carved with a knife.

[284] To spin, a bit of wool is pulled out and attached to the spindle by a /177/ slipknot. The movement communicated to the spindle is made by holding the thumb against the index and middle finger of the left hand, from right to left. When the spindle has begun to turn, the male or female spinner rapidly brings the right hand toward the left, following the thread (kauni) being formed. This movement is to even the thread. Once the hands are together, he draws out the wool and repeats the twisting movement. The spindle is suspended at the end of the thread, or, when the spinner is seated, it turns in a bowl (Pl. V, B /see p. 214/). When a certain length of thread has been obtained it is unrolled from the top part of the spindle and rolled on below. A new loop is made and the spindle is placed in action again in the way indicated. The threads obtained by this method are generally very thin. For weaving

/177 cont./

283 it is more advantageous to have thicker ones. With this aim two are twisted together during an operation which is analogous but made up of different movements. The rotation movement communicated to the spindle is carried out with the flat of the hand. The spinner, abandoning the spindle to itself, follows the thread with her right hand until it comes up to the spindle when she stops it to make it turn again.

286 Weaving. The loom (Fig. 4, C /see 157/) is essentially composed of two sticks between which the warp threads run. The latter are not directly fastened to the sticks but to a cord stretched along the latter. To weave, the Indian woman begins by tying the forepart of the loom to two short stakes (pat-kˣena) stuck in the ground in front of which she sits down (Pl. V, C /see p. 214/). Then she holds out the warp while tying the other end to her own body by means of a small cord (skos-koči, činuka) passed around her waist. The automatic raising of the warp threads (ĸauni) is done, as usual, with the help of small loops of thread placed between two wooden sticks (il'ava). Their crossing is maintained thanks to a stick (tokxura) placed behind this network. The motions of the Indian during the weaving operation can be broken down as follows: with the thumb of the right hand she presses on the warp threads behind the network of small loops to make the upper threads pass under. This motion ended she slides a wooden knife (skuas-para) pointed at both ends behind the network, between the warp threads. She puts it edgewise and with a bone dagger (Fig. 4, F) she packs and presses together the threads which have just crossed. She then darts through her shuttle (kˣos), which is nothing but a cleft stick around which she has rolled the weft thread (kuš). To cross the warp threads again, with the bone dagger (wiña, wikuña) she lifts the lower threads over the network, passes her wooden knife through again, and makes /178/ her shuttle again pass through the half-opening between the warp threads and begins again the operation described. The material is begun at the two ends of the loom and ends in the middle of the piece.

/179 cont./

283 Rope-making. Ropes (koč, koms) are made of llama wool or straw, the former twisted or braided. To make them, the Čipaya take a bundle of raw wool in the right hand and twist it by hand and gradually roll around a ring held in the left hand. The ropes and cords of wool (kxiya, tuanda) serve as belts for the men or are used to fasten loads on the backs of llamas.

Straw ropes are used practically exclusively in the construction of houses, where they tie the different pieces of the framework of the roof and fasten down the straw which covers it.

[284] These ropes are made by the women: they hammer each handful of straw on the back of their overturned grindstones with a round rock provided with depressions which facilitate handling it. The stalks once softened are moistened. The woman twists some of them to make a strand (pʰit-čekta). She does the same with another pinch, then applies a rotating motion between her palms to these two strands. So that the straw will not dry out during the process, she holds it sheltered under a blanket and herself dampens her hands frequently.

285 Basket-making. Basket-making is a local industry in Chipaya. /180/ Their circular baskets (pats patz) with a small perpendicular rim are all of one type although of different sizes (Fig. 3, A /see p. 155/). They are composed of small coils of straw turned upon themselves in a spiral and held together by leather ties (Fig. 3, A, B). This technique is the one that ethnographers in the English language call "coiled."

287 The small openwork baskets (čiñi šepa) are, it appears, fish 439 traps which the Čipaya buy from the people of Orinoca or Andamarca (villages situated near the banks of the Poopó).

2:Métraux--214 E-5 (1930-1931) 1935, 1936 SF24 Uru SF24
Carangas-
Chipaya

Plate V

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[252]
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[192]
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A. Čipaya woman leaning against a wall and treading quinua seeds to husk them.

B. Čipaya woman spinning.

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[302]

C. Čipaya woman weaving.

D. Treadle loom for weaving made of cactus wood.

3:Vellard--6d D, E-5 (1938-1944) 1949 SF24 Uru SF24

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9. Fisher preparing straw ropes to make a balsa. He is using a stone hammer.

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824

10. Construction of a balsa: preparation of the three totora cylinders: the heart and the two side parts.

/171 cont./

*539 192 193 1. píni means "many"; with hána it may be rendered by "no more"; učúmi, exclusive personal pronoun /172/ for the first person plural. 2. šalák, probably the Spanish chacra, "cultivated field"; the Uru do not have their own word to designate fields. 4. The ending čay added to a root gives it [136] the verbal form. 6. xui, interrogative particle. 7. suche, small kind of sheatfish from the Titicaca region; it is the [824] Trichomycterus dispar. 8. totora, Scirpus totora, the reeds of Lake Titicaca used by the Uru to build their balsas, cover their houses, and for other uses. 12. ke-, particle of repeti- [101] tion. 14. tòxša, literally "other persons," designates all men other than the Uru; nak' for náka, plural form of pronouns.

*539 396

II. Manufacture of Balsas from Totoras
(Account by Manuel Inta)

(See p. 154 /in the foreign text/)

Free Translation

1. Let us go, as is our custom, to find totoras to make a [283] balsa. 2.. We are accustomed to go far to make the straw ropes /necessities/. 3. Three days are needed to dry (the straw ropes). 4. The straw ropes are well dried now. 5. Now all these totoras are well dried. 6. Let us make the balsa. 7. A man cuts the totora. 8. The totora is tied (in bunches). 9. Three have to be made (bunches of totora): the heart (the middle spindle) and the two side spindles of the balsa. 10. We tie (the spindles); now we are going to squeeze them together very tightly, at first it takes two men to squeeze it together. 11. We have the custom of sprinkling (the totora) with water so that it does not dry. 12. Now we are going to tighten; to tighten we are accustomed to use a hook. 13. We beat (the totora) with /173/ a rock (in order to compress it).

5:La Barre E-5 (1937-1938) 1946
SF24 Uru SF24

396 edge of the pontoons. The whole makes a sea-sled type of hull, which will not easily overturn even in the fierce storms of Lake Titicaca.

501 The balsa is poled along with a stubby trident, the wood for which comes from the yungas east of the Cordillera Real. In the open lake, a trapezoidal reed sail is rigged on two poles stuck deeply into the pontoons and forming an inverted V. The balsa is unable to tack in the wind, however, for it lacks a centerboard. Balsas are dragged onto the land from time to time lest they become waterlogged and rot. Though they may be bought for 10 to 16 Bolivian dollars (bolivianos), they represent much labor.

[509] [435] [461]

MANUFACTURES

824 *Uru* material culture is simple. Owing to the lack of trees, the giant totora reed (*Scirpus tatora*) is of extraordinary importance, providing material for fishweirs, roof mats (pl. 117, *top, left*), floor and sitting mats, rafters, doors, balsas, sails, and even food for animals and people. Metallurgy is unknown. Pottery making has been abandoned in recent times.

325 323 178

Basketry.—Crudely coiled baskets and twined tortora reed baskets are made.

285

Textiles.—The *Uru* make twine bird nets, mats of various types, sails, grass rope, and simple baskets (both coiled and twined). Women spin llama wool as incessantly as the men make grass rope, using a wooden spindle. They weave the yarn into cloth on a simple bar loom staked taut on the ground (pl. 116, *top*), rolling up the finished cloth on the end bar. When the end of the warp is approached, they weave from the other end, and finally fill in the last intermediate strip with a needle. Knitting is not pre-Columbian here, but *Uru* women are very skillful in knitting *Aymara*-type caps (gorros), often with amazingly intricate animal figures and other designs. Men's slingshots are very beautifully braided of wool with varicolored diamond designs like the markings on snakes. The *Uru* also make thongs of twisted rawhide still retaining the fur, and heavy braided woolen ropes for lashing loads on burden animals.

286 [283] [411] [531]

286 An extremely interesting textile, apparently unique to the region southeast of Lake Titicaca, is a kind of feather cloth described by David Forbes (1870). The down of lake birds was spun into thread, and then knit into caps and children's socks and gloves. Only a few specimens of these exist in museums.

231

41 **Weapons.**—To make bolas, the *Uru* buy cotton thread from traders and wind this tightly around a cord Y to make a durable bird-hunting weapon. A straw-cord bola perdida, similar to that of Patagonia, is also used.

[439] [284]

325 **Metals.**—The *Uru* know no metallurgy, although the *Aymara* of Jesús de Machaca, scarcely a day's journey away, are famous for their

5:La Barre E-5 (1937-1938) 1946
SF24 Uru SF24
Chipaya

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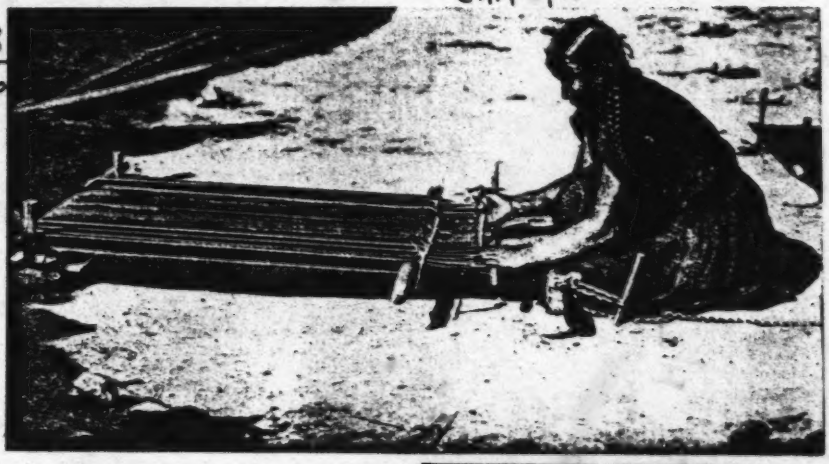

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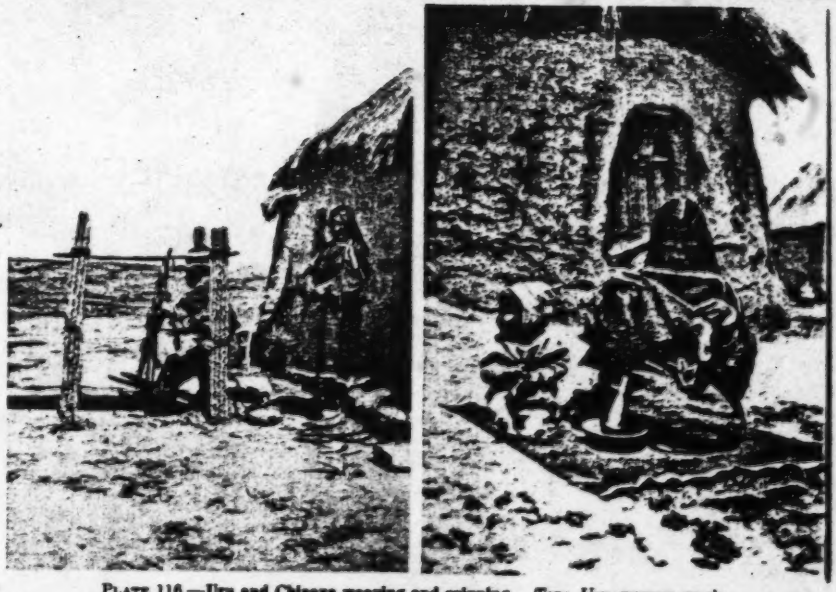

PLATE 116.—**Uru and Chipaya weaving and spinning.** *Top: Uru* woman working at native loom. *Bottom (left): Chipaya* man at upright loom. *Bottom (right): Chipaya* woman spinning. (Courtesy Alfred Métraux.)

[P. 582-D]

They are often reinforced with rawhide bindings, and are handled with great care. The *flauta de pico* is blown through a mouthpiece at the end. To make this kind of flute the Chipayas use the curved branches of the *tola* shrub, which gives these instruments their distinctive shape.

They also use the *ayo*, a round stone that gives out strange sounds through a hole in its center. Played with the other instruments, it produces a heavy music, slow and melancholy. The sound emitted depends on the size of the stone and the way it is struck.

Pottery making is unknown today among the Chipayas, and probably has been for many generations, since all their words for pottery are Aymara. The Chipaya women bring water from the Lauca River in very large jars, carrying them on their shoulders with the help of an ingeniously knotted cord of llama wool, exactly in the manner shown on ancient Chimu vases. From time immemorial the Chipayas have made beautiful coiled baskets of straw.

Chipaya religion, a blend of pagan and Catholic features, is basically the same as that of the Aymaras, although it probably preserves the pagan aspects in purer form. Pachamama, the Earth Mother, is the favorite goddess, and is often confused with the Virgin Mary. They also worship St. Philip, St. Jerome, and St. Ann; a host of spirits called *mallcus;* the Lauca River; the nearby moun-

[P. 22-B]

346 There
[996] were some withered Palm-Sunday decorations made from the rushes which border the river. They were plaited and twisted and fringed and hung on rusty nails. The door stood partially open. A low adobe-wall surrounded the building. There were no tombs in evidence. A family of donkeys had taken [831] up their residence there. We gave them some biscuit and apple, and they followed us down the stony 126 path to where the village was assembled. The cameras were ticking, and our chauffeur Carlos had been promoted to stagehand with a wooden clapper. Our star was continuing her role with renewed enthusiasm; leaning against the wall were two boys 11 or 12 years old, one had beautiful smooth regular features. I photographed him, but he never moved, nor seemed conscious of our presence. We left him [396] standing motionless and followed the younger one [283] down to the river where a man was plaiting rushes, preparatory to making a balsa.

824 Some fifteen years ago the whole region suffered [1131] from a severe draught. The waterlevel of the lake descended from twelve to fifteen feet and many of the marshes dried out, and the reeds, the *totora*, withered and disappeared. These totoras play as important a part among the Uru as the llama among [501] the Aymara or Quechua on the Altiplano. While the [964] stems are used for making balsas, sails and ropes, [203] the roots or *kzouras* are the staple diet of the Uru, who also use it to brew a kind of beer, allowing the tubercles to ferment.

132 Fortunately in these last few years the climatic con-
137 ditions have once more returned to normal, and with the rise of the lake the totoras have once more in-
501 creased. These rafts, with their tall pointed bows, have the gracefulness of a gondola. They are composed of three cylinders, two forming the sides and
396 one the centre. The rushes are plaited into long
283 braids, the end being held between the man's toes. These braids are then plaited together and together again, and all these ropes are assembled, moistened and laced together. Two men work simultaneously,

[p. 313-A]

SF24 Uru SF24
Iru Itu

CYNTHIA FAIN: THE PEOPLE OF THE LAKE

Two men work simultaneously
396 tightening the braids with little wooden hooks,
[883] taking care that the two parallel cylinders have
912] exactly the same size and weight, so that the balsa will not capsize. Herein lies the art of balsa-building. While the construction is in progress, a third man waters the cylinders, so that the reed remains
[412] slightly damp. For hours on end they tighten the cords, and with a little stone hammer they tap the braids together so that they end by forming a substance hard as wood. The balsa is then turned over, the two pointed ends are placed in holes in the ground, and earth is tightly packed around them, so that they may keep their form. Here they remain for several days, afterwards they are taken out, and a hole is made in which the mast is placed, and the
501 reed sail is attached to it by three cords. In the very small balsa the fisherman holds a stick to which a little sail is attached. The large balsas measure between twenty-one and twenty-five feet. They draw about forty cms. of water and can carry from eight to ten passengers. The small balsa is about seven feet long and carries two passengers. When not using a sail, they employ a long double paddle, or a punt-pole when circulating among the rushes. The
[961] life of the balsa is short: they are built in three or
1327] four days, but they are rarely deemed safe for use on the lake, where storms are frequent for more than six months in the year. Generally they end their days as punts which keep to the edge of the lake among the rushes.

126 The cameras were set up, and I took photographs and
123 then wandered up the river, where suddenly I perceived the raucous lady, who was if possible even more insulting than on the previous day. Seeing the camera, which she doubtless took for the eye of
[188] Satan, she flung a stone which missed me by yards,
201] and, uttering more curses, fled, making the sign of the cross and at the same time keeping her fingers crossed, so as to be well on the safe side with all the
126 forces of the supernatural. We had by now filmed and photographed the population from almost every

9:La Barre E-4,5 (1938) 1941
SF24 Uru SF24

(Aymára rectangular houses are *iču*-grass thatched, not matted in the Uru fashion). Possibly because of the scarcity of wood, "rafters" in the roof are made of thick bundles of reeds, the main supports laid east and west, with secondary supports arched north and south. Some of the round houses have a roof framework made of bent sticks laid at right angles and grass-rope lashed at their crossings. On this framework of wood or *totora*-bundles, large mats, employing the full lengths of these giant reeds, are laid in two sections, so that there is a sort of pseudo-ridge to the roof, running from over the door to the west wall; this ridge is made by the meeting of the butts of the reeds. Grass ropes are laid over these mats to hold them down in the wind, and tied to wooden pegs in the mud walls of the house. There is no smoke-hole save the door, so the roof mats become speedily coated with soot and are quite waterproof. One must stoop in entering the door, but a man can stand upright in the center of the house. A mud "stove" is placed to the right (north) of the door, in which *t'ola* (a kind of grease-brush), *yareta* (woody, turf-like masses of a semi-subterranean shrub), or *takia* (llama-dung) are burned for fuel, owing to the absence of wood in the region. The cord used on the roof-mats to twine the ends of the single reed elements, is true two-element twisted rope, the torque of the twisted strands of wiry grass holding the whole together. The rope used in binding *balsas*, on the other hand, is of tightly plaited grass, possibly because the more laboriously made plaited grass rope has greater strength and durability than the twisted kind.

Anciently, according to the 18th century writer Alcedo, the Uru lived in caves and holes in the ground, but they share the round type of house with their congeners the Chipaya. The same round house type is seen elsewhere scatteredly in the *altiplano*. Forbes noted "beehive" houses in out-of-the-way places, and in the 16th and 17th century descriptions such as that of Cobo are indications that the round hut was the original Aymára style. Métraux noted round mud houses with corbelled domes like those of the Chipaya, at Kxulliri, near Toledo; and villages of round houses may be seen the west of the railroad halfway between La Paz and Oruro.[18]

[18] David Forbes, *On the Aymara Indians of Bolivia and Peru* (Journal Ethnological Society of London, Vol. 2: 193–305, 1870), p. 255. Posnansky, *op. cit.* p. 69, also says the Uru formerly lived in caves or holes dug in the ground, and roofed with mats. Bernabé Cobo, *Historia del Nuevo Mundo*, 4 vols. (Sevilla, 1895), Vol. 4: pp. 166–667. Métraux (JSAP 28: 190–194) says that the rectangular huts of the Aymára are built after Spanish patterns, and that only the chiefs at Chipaya used them, others building the older round type of house. The round style is useless, however, for tracing the provenience of the Uru: Braun noted Quechua storehouses of this kind in southwestern Bolivia, Nordenskiöld the same form among Aymára at Tunari, near Cochabamba (Otto Braun [Letter to Nordenskiöld in 1931]; Erland Nordenskiöld, *The*

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396 knives on the ends of poles, then stacked in shocks like corn, after they have been dried spread out in the sun. Nearly all able-bodied Uru males have quantities of these materials in various stages toward the manufacture of the complete boats. In their houses, even, in spare moments, men are continually braiding *ičʉ*-grass into tough ropes to bind the boats together.

Though shaped like a boat, the *balsa* is of course actually a raft. A handful of reeds is bound together and repeatedly thickened with more reeds as the middle of the cigar-shaped element is reached, then tapered off again into a point. The only tool used in the manufacture of this is a wooden hook [413] (*kaχlu*) with a handle at an acute angle to it, used to tighten the lashing of grass rope. A more tubular and thinner sheaf of reeds forms the keel of the *balsa*, and two of the fat cigar-shaped bundles are separately lashed to it, forming a sort of sea-sled type of hull, which cannot be overturned in a storm; the thinner ends of these cigar-shaped bundles are slightly raised fore and aft of the boat. To form gunwales, a still thinner and tubular sheaf of reeds is lashed (during its own round-and-round binding with braided grass rope) through the original lashing of the hull-elements. One of these gunwales (*pinča*) is placed on each side of the top of the hull-elements to prevent splashing of water onto the occupants of the boat as it is poled 501 along. The Uru *balsa* thus differs from the Aymára[34] type in that its two [191] large basic elements are lashed to a central "keel" and not to each other (though the bulwark lacings are similarly looped through the lacings of the two hull-elements); it has therefore five instead of four elements. The Uru also rig their *totora*-mat sails with a slight difference from the Aymára. [502] Sails, however, can only be used on the Lake and on the open river "before the wind" since the boat has no center-board and cannot tack. In the narrow swampways a punt pole or gaff (*teksi*) with a stubby trident at its end is [824] used to push the boat along. The wood for these comes from the *yungas* of 501 the Cordillera Real's eastern, tropical slopes. (See Posnansky, Fig. 83.) A 435 complete *balsa* cost in 1937 from ten to sixteen *bolivianos*, then worth about 5¢.

285 Of Uru textiles we have already noted twined single-element *totora balsa*-sails, twined many-element mattress-mats of reed, fish- and bird-nets (which they themselves make of cord obtained in Guaqui from La Paz), and 283 single-element twined roof mats of *totora*. Métraux has an excellent description (page 86) of the preparation by soaking, pounding, and rolling of the wiry grasses of the region (*Stipa ichu, Festucha orthophylla*, and *F. dis-*

[113] [34] Lorenzo R. Parodi, *Las balsas usadas por los Aymaras en el lago Titicaca* (Physis, Revista de la Sociedad argentina de ciencias naturales, Vol. 11, Buenos Aires, 1932), pp. 145-149. Métraux' description (JSAP 27: 84) is of the Aymára type.

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sijara) for the manufacture of grass rope. This I noted was of two kinds, depending on its use: three-element braid for *bolas*, two-element true rope for twining the several kinds of mats, called *čawara*. The women make simple baskets too, or did until recently. These the women sell, as they do all other articles they manufacture.

The women spin (*gawaa*) llama-wool (*gaači*) as incessantly as the men make grass rope. Usually they use a whorl or spindle, weighted with the yarn already spun wound around it, sometimes freely suspended as they walk along the road to market, sometimes with a bowl when sitting; but they spin between the palms also. This yarn they weave (*wač'[i]*) into a coarse cloth on simple tension looms staked to the ground. Both men's and women's clothing is made of this native homespun. I was told that the Uru do not weave so much as formerly, because of an obscure superstition that "it will go bad with them after death"; but I observed several looms in operation at Ancoaqui. The cloth is woven and rolled on one of the end bars until nearly all the warp is used up; then the weaving is done from the far end leaving an open space which is filled in with a large needle after the heald-rod is removed. That is, they weave from one end, and when nearly finished, they weave from the other. Only women use the native ground loom and the men the colonial Spanish crude foot loom. There were none of the latter in operation at Ancoaqui during my stay but the adobe frame of one foot loom observed was similar to those of the Aymára. The women's wide girdles or *časi* are woven on looms also. The colors of the cloth are usually black or natural wool color but sometimes they buy modern coal-tar dyes for brighter colors in their *coca*-sacks and the like.

Knitting is probably not pre-Columbian, at least in the current styles, but the women are very skilful in knitting *gorros* of the Aymára type (Uru *škara*), often with amazingly intricate animal figures and other designs. The men's slingshots are made of llama wool also, circular-braided in a number of very pleasing designs like the markings on snakes.[25] The felted wool hats I believe are not made by the Uru, but bought from the Aymára at Guaqui, Tiahuanacu and elsewhere. The Uru, however, do make thongs of twisted rawhide with the fur left on, as well as heavy "sogas" or woolen ropes for lashing burdens on llamas and donkeys. The Uru *bolas* (Aymará *liwi*, Uru *k'oñi*) use cords unlike those of the slingshots which are woven,

[25] Bandelier wrote (*The Islands of Titicaca and Koati*, New York, 1910) that there are no snakes on the *altiplano* whatsoever, but we killed a small one on the site of Bennett's diggings at Lucurmata on the southern shore of Lake Titicaca. It was about 18" long, with greenish-gray spots on its back. It is called *asiro* in Aymará and grows to two or three feet in length.

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whereas the *bolas* have tightly wound cotton thread (bought from Aymára traders) around the cords (see Posnansky, Fig. 90). As has been pointed out, the word for "clothes" in general is very much like the word for "skin," suggesting a pretextile substance for this purpose in earlier times. No information was obtained on any tanning process, however. Leather sandals, *čais* (an Aymará word), are not universally used.

An extremely interesting textile, apparently unique to the region southeast of Lake Titicaca, is a kind of feather-cloth. David Forbes described this in 1870 for the Aymára, but my repeated inability to check it for this group leads me to believe that the art was really Uru. This art was the spinning of the down of lake birds into a thread, which was then knit into *gorros*. The Berlin Museum has a specimen of these. Dr Krickeberg, who studied it, believed the idea of making thread from bird-down is ancient but that the knitting is European in origin.[28]

The Uru know no metallurgy of any kind, though the Aymára of Jesus de Machaca, a day's journey overland to the east are famous for their metal casting. Some of the "topos" (Uru *toskola* [cf. the term for penis, *siñi*- ("eggs") *skolo*]) used by the women to pin their clothing at the shoulder are probably generations old, and some may have been recovered from the ancient *čulpa* graves.

Pottery is no longer made at Ancoaqui, though there is plenty of evidence, archaeological and otherwise, that this was not always the case. Ogilvie, in point of fact, noted a water jar "made of clay dug from a bank near by," so that the non-practice of pottery-making is possibly a recent thing—evidence, like the decline of weaving and basket-making, of the final decadence of Uru culture. Plain reddish round-bodied *ollas* with a narrow neck and a small handle at the top, and crudely made but large hemispherical bowls (up to 18" across the top) with a bent-out lip and two small loops as handles were, however, noted; these may have been made at Ancoaqui, as they are much cruder even than modern Aymára ceramics of the region.

Flat grinding-stones with long mullers, together with hammers (*kupaña*) for all purposes (a roundish stone lashed with rawhide to a stick, illustrated in Posnansky's Figure 81) are the only objects made of stone, except the handle end of the *bola*, and the sinkers for fish-nets.

Weaving frames, distaffs and spindles, *balsa*-poles, spear-handles, the wooden *balsa*-making hook (*kaχlu* or *'kaχi*), and a few other small articles are the only objects made of wood, which is very valuable and extremely

[28] Forbes, *op. cit.*, p. 262, says this down yarn was knit into children's socks and gloves. Cf. Métraux (JSAP 27, pp. 86-87; 28, pp. 196) and Posnansky, *op. cit.*, p. 72.